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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,132

11/17/2003

Phillip M. Adams

2456.2.8.2

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04/27/2006

PATE PIERCE & BAIRD  
215 SOUTH STATE STREET, SUITE 550  
PARKSIDE TOWER  
SALT LAKE CITY, UT 84111

EXAMINER

NGUYEN, VAN H

ART UNIT

PAPER NUMBER

2194

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental  
Notice of Allowability**

Application No.

10/715,132

Examiner

VAN H. NGUYEN

Applicant(s)

ADAMS, PHILLIP M.

Art Unit

2194

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendments on 02/08/06.
2. ☒ The allowed claim(s) is/are 1, 3-7, 9-16, and 18-26 (now renumbered as 1-23).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
WILLIAM THOMSON  
SUPERVISORY PATENT EXAMINER

***SUPPLEMENTAL EXAMINER'S AMENDMENT & REASONS FOR  
ALLOWANCE***

*The previous Office Action inadvertently omitted the amendment of dependent claim 9 as discussed, and this Action has corrected/addressed the omission.*

**I. EXAMINER'S AMENDMENT:**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. John Pate (Reg. No. 36, 234) on February 08, 2006.
3. **The application has been amended as follows:**

**A. In the Specification:**

**All previous copies of the Abstract have been replaced with the following clean copy of the Abstract as amended by the Examiner's amendment:**

A system and method for a software override capability for enforcing a predetermined state for an otherwise hardware-programmable device. Software that may think it knows what it is doing may try to control a hardware device, but may not know about a hardware issue, such as another feature or defect requiring that the device stay in a certain state. The technique programmatically maintains a persistent hardware state independent of any other control software. To other software, the software layer of the invention is indistinguishable and inseparable from hardware. Nothing can slip in between. Any insertion attempt will be detected and disallowed. Features of the processor or system chips actually weld the software to the hardware, which feature disallows any software intervention between the welded software layer and the hardware.

**B. In the Claims:**

**a. All previous copies of claims 1, 7, 9, and 16 have been replaced with the following clean copy of claims 1, 7, 9, and 16 as amended by the Examiner's amendment:**

**Claim 1.** An apparatus for limiting access to a hardware resource, the apparatus comprising a computer readable medium storing executable and operational data structures, the data structures comprising:

a determination module for identifying a hardware resource;

a welding module for inseparably connecting a persistent software layer to the

hardware resource; and

a defense module for resisting attempts by software to unweld the persistent software layer from the hardware resource.

**Claim 7.** A computer readable medium storing data structures embodying executables to effect a method comprising:

operating a processor operably connected to a first hardware resource;

operating the first hardware resource with a computer readable resource identifier for identifying available hardware resources;

identifying the processor, by the resource identifier, as the first hardware resource;

executing on the processor a welder to inseparably connect a persistent software layer thereto;

accessing, by the processor, a first hardware interface; and

automatically engaging the persistent software layer upon accessing, by the processor, the hardware interface.

**Claim 9.** The computer readable medium of claim 7, wherein the method further comprises executing a defense module in response to an attempt to unweld the persistent software layer from the first hardware interface.

**Claim 16.** A method for welding a software layer to a hardware layer in a computer

system having hardware interfaces, the method comprising:

providing a processor operably connected to a first hardware resource;

providing a first hardware interface corresponding to the first hardware resource;

identifying the processor, by a resource identifier, as the first hardware resource;

executing on the processor a welder for inseparably connecting a persistent software layer to the first hardware resource precluding direct access to the first hardware interface by anything other than the persistent software layer in the processor;

accessing, by the processor, the first hardware interface; and

automatically engaging the persistent software layer upon accessing, by the processor, the hardware interface.

**b. Claims 2, 8, and 17 have been cancelled.**

## **II. REASONS FOR ALLOWANCE:**

1. The following is an examiner's statement of reasons for allowance:
2. Formal drawings filed on November 17, 2003 are acceptable.
3. The prior art does not expressly teach or render obvious the invention as recited in independent claims 1, 7, and 16 as amended above.

Independent claim 1 recites "a welding module for inseparably connecting a persistent software layer to the hardware resource."

Independent claim 7 recites “executing on the processor a welder to inseparably connect a persistent software layer to the hardware resource.”

Independent claim 16 recites “executing on the processor a welder for inseparably connecting a persistent software layer to the first hardware resource.”

The term “welder” or “welding” does not have a plain or generic meaning to those of ordinary skill in the computer science or programming arts.

Accordingly, the terms “welder” or “welding” have been interpreted by the Examiner as “coined” terms requiring the Examiner to look to the supporting definition in the specification to properly interpret the scope of the claim.

“An Applicant may be his or her own lexicographer; however any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multi-form Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 4,15 USPQ2d 1429, 1432 (Fed. Cir. 1998).

The instant specification provides corresponding definitions for the claimed “welder” or “welding.”

Applicant describes “welder” or “welding” in the context of “a process 153 may weld a software layer to a hardware layer such that other software cannot defeat the connection therebetween” [see instant specification, page 30, lines 14-15].

Applicant further discloses a defense process 157 that is used to implement the claimed “welding” by “eliminating, defeating, or otherwise defending against attempts by other software to unweld a persistent software function 159 (see Figure 12) from an underlying hardware device or process” [instant specification, page 30].

The cited prior art of record lacks sufficient scope and implementation detail to fairly teach or suggest the combination of limitations claimed in the instant invention when the claim elements are interpreted in light of Applicant's specification, as discussed above.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The examiner can also be reached on alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM THOMSON can be reached at (571) 272-3718.

The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.



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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

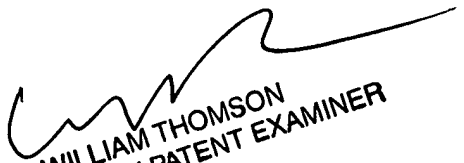
**Any response to this action should be mailed to:**

Commissioner for patents

P O Box 1450

Alexandria, VA 22313-1450

VHN



WILLIAM THOMSON  
SUPERVISORY PATENT EXAMINER